

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Original) A computer-implemented method to support in developing a process specification for a collaborative process involving distributed computer-based participant systems exchanging messages through an asynchronous messaging network, the method embodied by a computer program product executable by a computer system and causing, when executed, said computer system to carry out the steps of:

retrieving from a first storage location, information on local states and local state transitions in relation to each participant system, said information specifying in relation to each local state transition, starting and target local states of the corresponding participant system and events triggering, and resulting from, the respective local state transition;

processing said information retrieved from said first storage location to generate, and store in a second storage location, information on collaboration states and collaboration state transitions of said process, said collaboration states defined by a local state for each participant system and a communication status of each message exchangeable between said participant systems, said collaboration state transitions being determined by applying said local state transitions to said collaboration states;

upon generation and storage of said information on said collaboration states and collaboration state transitions, retrieving that information from said second storage location;

processing said information retrieved from said second storage location to generate information on incompletely specified terminal collaboration states among said collaboration states, an incompletely specified terminal collaboration state being a terminal collaboration state in which at least one message is underway between said participant systems; and

generating a result data object containing information on every incompletely specified terminal collaboration state found.

2. (Original) The method of claim 1, further comprising the step of storing said result data object in a third storage location.
3. (Original) The method of claim 1 or 2, further comprising the step of providing said result data object to a graphical output device to visually present on a display a presentation object indicating every incompletely specified terminal collaboration state found.
4. (Currently Amended) The method of claim claims 1 or to 2, wherein said communication status is a binary status indicating whether or not the respective message is underway between said participant systems.
5. (Currently Amended) The method of claim any of claims 1 or to 2, wherein said step of processing said information retrieved from said first storage location includes generating, and storing in said second storage location, information on a set of virtual global states, said virtual global states being defined each by a local state for each participant system and a communication status of each message, said set of virtual global states comprising states of any combination of local states of said participant systems and communication statuses of said messages.
6. (Original) The method of claim 5, wherein said virtual global states are represented each by a global state vector composed of first global state vector elements indicating a local state for each participant system and one or more second global state vector elements, one in relation to each message, each second global state vector element indicating a communication status of the respective message, said set of virtual global states comprising states of any combination of values of said first and second global state vector elements.

7. (Previously Presented) The method of claim 5, wherein said step of processing said information retrieved from said first storage location includes identifying an initial global state among said virtual global states, said initial global state being one in which at least one local state transition as specified by said information retrieved from said first storage location and involving a local trigger is applicable to said initial global state and no message is underway between said participant systems, said local state transition causing a global state transition from said initial global state to another virtual global state; determining every virtual global state reachable when starting from said initial global state; and determining said initial global state and every virtual global state reachable from said initial global state to be collaboration states.

8. (Original) A computer system to support in developing a process specification for a collaborative process involving distributed computer-based participant systems exchanging messages through an asynchronous messaging network, said computer system provided with a computer program product that, when executed, causes said computer system to carry out the steps of:

retrieving from a first storage location, information on local states and local state transitions in relation to each participant system, said information specifying in relation to each local state transition, starting and target local states of the corresponding participant system and events triggering, and resulting from, the respective local state transition;

processing said information retrieved from said first storage location to generate, and store in a second storage location, information on collaboration states and collaboration state transitions of said process, said collaboration states defined by a local state for each participant system and a communication status of each message exchangeable between said participant systems, said collaboration state transitions determined by applying said local state transitions to said collaboration states;

upon generation and storage of said information on said collaboration states and collaboration state transitions, retrieving that information from said second storage location;

processing said information retrieved from said second storage location to generate information on incompletely specified terminal collaboration states among said collaboration states, an incompletely specified terminal collaboration state being a terminal collaboration state in which at least one message is underway between said participant systems; and

generating a result data object containing information on every incompletely specified terminal collaboration state found.

9. (Currently Amended) A computer program product stored on a computer readable medium and providing computer-executable instructions that, when executed by a computer system, cause said computer system to carry out the steps of:

retrieving from a first storage location, information on local states and local state transitions in relation to each participant system, said information specifying in relation to each local state transition, starting and target local states of the corresponding participant system and events triggering, and resulting from, the respective local state transition;

processing said information retrieved from said first storage location to generate, and store in a second storage location, information on collaboration states and collaboration state transitions of said process, said collaboration states defined by a local state for each participant system and a communication status of each message exchangeable between said participant systems, said collaboration state transitions determined by applying said local state transitions to said collaboration states;

upon generation and storage of said information on said collaboration states and collaboration state transitions, retrieving that information from said second storage location;

processing said information retrieved from said second storage location to generate information on incompletely specified terminal collaboration states among said collaboration states, an incompletely specified terminal collaboration state being a terminal collaboration state in which at least one message is underway between said participant systems; and

generating a result data object containing information on every incompletely specified terminal collaboration state found.